UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,616	07/25/2001	Tadao Endo	35.C15603	3459

5514 7590 09/05/2003

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER
GAGLIARDI, ALBERT J

ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 09/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/911,616	ENDO, TADAO	
	Examiner	Art Unit	
	Albert J. Gagliardi	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *16 and 20* is/are allowed.

6)☒ Claim(s) *1-14 and 17-19* is/are rejected.

7)☒ Claim(s) *15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-7 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamayoshi *et al.* (US 6,160,260) in view of Mochizuki (US 5,777,335) and Agano (US 6,392,237).

Regarding claim 1, *Yamayoshi* discloses (Figs. 3-5) a photoelectric conversion device comprising a photoelectric conversion substrate and a plurality of photoelectric conversion elements installed on the substrate (4).

Yamayoshi does not disclose a light source that radiates light rays having no image data or an outer casing.

Regarding a light source that radiates light rays having no image data, *Agano* discloses that various functionally equivalent readout means including both TFT reading type and optical reading type arrangements are well known in the art (col. 1, lines 57-64). *Agano* also describes radiation detectors using optical reading methods as "improved" (col. 2, lines 1-4). Therefore,

absent some degree of criticality, it would have been obvious to a person of ordinary skill in the art to modify the device suggested by *Yamayoshi* so as to utilize an improved optical reading type readout means. Those skilled in the art appreciate that the modified device would inherently include an additional light source having no image data.

Although *Yamayoshi* does not disclose an outer casing, those skilled in the art appreciate that such outer casings (see, for example, *Mochizuki* at Fig. 1) for holding a photoelectric conversion substrate (2) and a light source (4) are well known and would have been a mater of routine design choice in order to protect the conversion device.

Note: Apparatus claims must be structurally distinguishable from the prior art. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). See MPEP 2114. In the present invention, the examiner notes that the readout light source suggested by *Agano* is structurally indistinguishable from the light source as recited by the claims.

Regarding claim 2, *Yamayoshi* discloses a plurality of switching elements (T11, T12, for example).

Regarding claim 3, the use of amorphous silicon for the photoelectric conversion element and the switching elements is well known (see for example *Mochizuki* at col. 1, lines 26-37).

Regarding claim 4, the light source suggested by *Agano* may be an EL panel (col. 8, lines 36-39).

Regarding claim 5, the light source suggested by *Agano* emits light rays having a wavelength region within which the photoelectric conversion elements have light absorption (inherent in view of the ability of the light source to effect a readout condition.

Regarding claims 6 and 7, *Yamayoshi* discloses that apparatus may include a wavelength converter (3) (col. 3, lines 56-63). The use of Gd_2O_2S or CsI, for example, is well known and would have been an obvious design choice.

Regarding claim 17, the device suggested by *Yamayoshi* and *Mochizuki* and *Agano* (see explanation regarding claim 1 above) suggests a photoelectric conversion device comprising a substrate and a plurality of photoelectric conversion elements (2) and a light source that radiates light rays having no image data (readout light source suggested by *Agano*); and an outer casing (suggestion of *Mochizuki*) housing the photoelectric conversion substrate (2) and the light source.

Regarding claim 18, those skilled in the art appreciate that is well known to utilize reflecting means placed in an appropriate position for leading light to appropriate areas in an efficient manner. The examiner further notes that an inherent aspect of the device as suggested by *Yamayoshi* and *Mochizuki* and *Agano* is that the wavelength converter is placed in a appropriate position for leading light to the photoelectric conversion elements. Therefore, absent some degree of criticality, it would have been an obvious design choice within the skill of a person of ordinary skill in the art (if not an inherent aspect of the device) to utilize the wavelength converter as a reflecting element for efficiently leading light from the light source to the photoelectric conversion elements in view the known use of reflecting means for such purpose and the appropriate position of the converter.

4. Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Yamayoshi* in view of *Agano*).

Regarding claim 8, *Yamayoshi* and *Agano* (see explanation regarding claims 1 and 6 above) suggests a photoelectric conversion device comprising a substrate and with a plurality of photoelectric conversion elements for conversion of incident light rays having image data; a first light source (wavelength converter) for radiating light rays having image data; and a second light source that radiates light rays having no image data (modification suggested by *Agano*)

Regarding claims 9 and 10, *Yamayoshi* discloses that the first light source is a wavelength converter. The use of Gd_2O_2S or CsI, for example, is well known and would have been an obvious design choice.

Regarding claim 11, *Agano* disclose that the second light source may be an EL panel.

Regarding claim 12, *Yamayoshi* and *Agano* (see explanation regarding claim 8 above) suggests a photoelectric conversion device comprising a substrate and with a plurality of photoelectric conversion elements for conversion of incident light rays having image data (4); a light source for radiating light rays having no image data (modification suggested by *Agano*); a radiation source (1); and a control means for independently controlling the radiation source and the photoelectric conversion device (see *Agano* at col. 6, lines 37-49 and *Yamayoshi* at Fig. 3).

Regarding claims 13 and 14, *Yamayoshi* discloses that the light source is a wavelength converter. The use of Gd_2O_2S or CsI, for example, is well known and would have been an obvious design choice.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Yamayoshi*, *Mochizuki* and *Agano* as applied to claim 17 above, and further in view of Endo *et al.* (US 5,811,790).

Regarding claim 19, photoelectric conversion elements with the recited arrangement are known in the art (see for example *Endo* at Figs. 2-3). Absent some degree of criticality, the particular design of the photoelectric conversion elements is viewed as a matter of routine design choice depending on the needs of the particular application and would have been an obvious design choice in view of the known design.

Response to Arguments

6. Applicant's arguments filed 20 June 2003 have been fully considered but they are not persuasive.

Regarding applicant's arguments regarding claims 1 and 17, the examiner notes that such arguments are moot in view of the new grounds of rejection necessitated by amendment.

Regarding applicant's argument regarding claims 8 and 12, the examiner notes that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, the *Agano* reference is used for the specific teaching of the benefits of optical readout generally, whereas the *Yamayoshi* reference is used for the teaching of plurality of photoelectric conversion devices. Since applicant makes no argument regarding the appropriateness of the combination, the examiner considers the combination proper.

7. All of applicant's arguments having been addressed or rendered moot by the new grounds of rejection or indication of allowable subject matter, the rejection is maintained.

Allowable Subject Matter

8. Claims 16 and 20 are allowed.

9. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding independent claims 16 and 20 and dependent claim 15, the prior art does not disclose or fairly suggest an image data processing system (claim 15) or method of driving a data processing system (claim 16) or a radiation image pick-up device (claim 20), as specifically claimed, including at least t steps or means for radiating light from a light source not having any image data during a non-image pickup period or non irradiating period.

The examiner notes that while driving methods for photoelectric conversion apparatus are known in the prior art (Kaifu -- US 6,127,684 -- for example) such methods do not suggest the use of an additional light source.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert J. Gagliardi whose telephone number is (703) 305-0417. The examiner can normally be reached on Monday thru Friday from 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (703) 308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Albert J. Gagliardi
Examiner
Art Unit 2878

AJG
August 11, 2003